

CLAIMS

- 1) A method for neutralizing, by controlled gas injection, liquid slug formation or accumulation at the foot of a pipe portion greatly inclined to the horizontal or riser connected to a pipe carrying circulating multiphase fluids, characterized in that a
5 volume of gas substantially proportional to the flow rate variation with time of the gas phase of the circulating fluids, when this variation is positive, is injected at the base of the riser.
- 2) A method for neutralizing, by controlled gas injection, liquid slug formation or accumulation at the foot of a substantially vertical pipe portion or riser connected to a
10 pipe carrying circulating multiphase fluids, characterized in that a volume of gas substantially equal to the flow rate variation with time of the gas phase of the circulating fluids, when this variation is positive, is injected at the base of the riser.
- 3) A method as claimed in claim 1 or 2, characterized in that said injected volume of gas is modulated by a quantity proportional to the flow rate variation of the liquid
15 phase of the circulating fluids.
- 4) A method as claimed in any one of the previous claims, characterized in that the flow rate variation with time of the gas phase of the circulating fluids, measured at a previous time interval, is injected at a time t.
- 5) A device for neutralizing, by controlled gas injection, liquid slug formation or
20 accumulation at the foot of a pipe portion greatly inclined to the horizontal or riser connected to a pipe carrying circulating multiphase fluids, comprising gas injection means connected to the base of the riser, means for measuring the flow rate of the gas

phase of the circulating fluids and a computer intended to control injection, by the injection means, of a volume of gas substantially proportional to the flow rate variation with time of the gas phase of the circulating fluids, when this variation is positive.

6) A device as claimed in claim 5, characterized in that the computer is suited to
5 control injection, by the injection means, of a volume of gas substantially equal to the flow rate variation with time of the gas phase of the circulating fluids.

7) A device as claimed in claim 5 or 6, comprising means for measuring the flow rate of the liquid phase circulating in the pipe, the computer being suited to modulate the injected volume of gas by a quantity proportional to the measured flow rate
10 variation of the liquid phase.